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# Notice of Allowability

Application No.

09/493,701

Examiner

Luke S. Wassum

Applicant(s)

WEISSMAN ET AL.

Art Unit

2177

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment, filed 24 June 2004.
2. ☒ The allowed claim(s) is/are 16-25,27-36,38-57,59,60,62,64 and 65.
3. ☒ The drawings filed on 28 January 2000 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.


Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 08112004.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

  
Luke S. Wassum  
Art Unit 2177

Art Unit: 2177

## DETAILED ACTION

### *Response to Amendment*

1. The Applicants' amendment, filed 24 June 2004, has been received, entered into the record, and considered.
2. As a result of the amendment, claims 37, 58 and 61 have been canceled and claims 16-18 and 67 have been amended. Claims 16-25, 27-36, 38-57, 59, 60, 62, 64, 65, 67 and 72 remain pending in the application.

### *Claim Objections*

3. In view of the cancellation of claims 37 and 58, the pending claim objections are withdrawn by the examiner.

### *Claim Rejections - 35 USC § 112*

4. In view of the cancellation of claim 61, the pending claim rejection under 35 U.S.C. § 112, first paragraph is withdrawn by the examiner.
5. Regarding the rejections of claims 36 and 57 under 35 U.S.C. § 112, second paragraph, the examiner finds the Applicant's arguments persuasive, and thus the pending claim rejections are withdrawn by the examiner.

## EXAMINER'S AMENDMENT

Art Unit: 2177

6. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with attorney Brian M. Buroker on 11 August 2004.

The application has been amended as follows:

In the Specification:

On page 21, line 2, please replace "plain words to not" with -- plain words do not --.

In the claims:

Please replace claim 16 as follows:

-- 16. A method comprising:  
organizing concepts according to their meaning into a lexicon of predefined known relationships between the concepts, said lexicon defining elements of a semantic space;

Art Unit: 2177

receiving a first input and, based on interpretation of potential meanings, associating that input with a first set of concepts from said lexicon, said first input representing a first location in the semantic space;

assigning a probability factor for each concept in the first set of concepts for the input received;

receiving a second input associated with a second set of concepts from said lexicon, said second input representing a second location in the semantic space;

determining a semantic distance from the first location to the second location by combination of the semantic distance between each concept in the first set of concepts and each concept in the second set of concepts; and

presenting results of a search conducted on the second set of concepts for data associated with the second set of concepts close in meaning to the first input based on the determined semantic distances and probability factors associated with the concept in the first set of concepts. --

Please cancel claims 67 and 72.

*Allowable Subject Matter*

7. Claims 16-25, 27-36, 38-57, 59, 60, 62, 64 and 65 are allowed.

The present invention is directed to a system wherein a first input is received and associated with a first set of concepts within a lexicon defining a semantic space, each association having a

probability factor representing the probability that the input does in fact have the associated meaning, receiving a second input associated with a second set of concepts and returning the results of a search of the first input for data close in meaning to the second set of concepts, wherein the search results are based upon the semantic distance between sets of concepts and the associated probability factor.

The closest prior art of record, **Caid et al.** (U.S. Patent 5,619,709) teaches a system for storing documents as context vectors in a semantic space, and searching said semantic space for documents similar to an input query.

However, **Caid et al.** fails to anticipate or render obvious the recited feature of taking into account the fact that an input (such as a document or terms) might have a plurality of meanings that require the input to be associated with a plurality of concepts in the lexicon, and so fails to teach the association of probability factors for the first set of concepts associated with the first input, as in independent claims 16 and 17.

These features, together with the other limitations of the independent claims are novel and non-obvious over the prior art of record. The dependent claims 18-25, 27-36, 38-57, 59, 60, 62, 64, 65 being definite, enabled by the specification, and further limiting to the independent claim, are also allowable.

*Conclusion*

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

**Della Pietra et al.** (U.S. Patent 5,987,404) teaches a system that uses statistical methods to do natural language understanding wherein 'strings' are interpreted as corresponding to single semantic concepts.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luke S. Wassum whose telephone number is 703-305-5706. The examiner can normally be reached on Monday-Friday 8:30-5:30, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Breene can be reached on 703-305-9790. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

In addition, INFORMAL or DRAFT communications may be faxed directly to the examiner at 703-746-5658.

Customer Service for Tech Center 2100 can be reached during regular business hours at (703) 306-5631, or fax (703) 746-7240.

Applicant(s) should be aware that the examiner is currently scheduled to move to the new Alexandria campus in mid-October 2004. At that time, the examiner's telephone number will change. For up-to-date telephone contact information, please see [www.uspto.gov](http://www.uspto.gov), and select "Employee Locator" from under the Site Index.



Art Unit: 2177

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Luke S. Wassum  
Art Unit 2177

lsw  
11 August 2004